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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/600,190
Filing Date: June 20, 2003
Appellant(s): BRODIE, KEITH J.

Jonathan W. Hallman

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/15/10 appealing from the Office action mailed 10/5/07.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

1-8.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

The 35 USC 112 FIRST New Matter rejections drawn to the limitations, "correlator sums", and "standby circuit" have been withdrawn.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5781156	Krasner	7-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Double Patenting

i). The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

ii). Claims 1-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6611757; claims 1-20 of U.S. Patent No. 6427121; claims 1-11 of U.S. Patent No. 6301545. Although the conflicting claims are not identical, they are not patentably distinct from each other because the structure of the claimed subject matter of the present application is disclosed in the above named patents. As an example, the above named patents all disclose an interrogator and a transponder which are capable of performing the steps disclosed in the present application..

iii). Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 2002/0138199, and claims 1-23 of copending Application No. 2001/0039475. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the application encompass the claims of the PG publication.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

iv). The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

v). Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear what all is meant and encompassed by the phrase, "the correlation snap shot comprises ……. *a range offset in* chips". The phrase, "a range offset" used in conjunction with the term, "chips" is not known in the art and confuses the scope of the claim. Although the specification discloses the above claimed phrase, there is no explanation of the meaning of "a range offset in chips".

Appellants fail to indicate what is offset from what. As further noted appellants drawings and specification disclose two different ranges i.e. a range between GPS satellites and a receiver and further a range between an interrogator and a transponder. Which range is which? As further noted an "offset" implies that two things have been compared and one if different from the other by an offset. As such, appellant's disclosure does not distinctly set forth the subject matter which the applicant regards as the invention in reference to the claimed, "……. *a range offset in* chips". The rejection also applies to the terms, "code phase *offset*", and "Doppler frequency *offset*" since appellant fails to disclose what is offset from what?

The term "chips" as known in electronic manufacture refers to a piece of semiconductor silicon circuit.

As further noted, the term "chips" as known in the art of digital signal communications refers to a pulse of a direct sequence spread spectrum (DSSS) code, such as a pseudo-noise code sequence used in direct-sequence code division multiple access (CDMA) channel access techniques. Each chip is typically a rectangular pulse of +1 or –1 amplitude, which when multiplied by a data sequence (similarly +1 or –1 representing the message bits) and by a carrier waveform forms a transmitted signal. The chips are therefore just the bit sequence (such as 0001,

0011, 0111, 1111, etc) out of a code generator; the ones and zeros are called chips to avoid confusing them with message bits.

As such appellants disclosure of the meaning of "……. *a range offset in* chips" is out of the ordinary since appellant is not using the conventional meaning of the term chips and further since appellant has failed to provide the proper meaning of , "……. *a range offset in* chips".

Applicant can be their own lexicographer; however, applicant must provide a clear and concise meaning of terms they use differently from the known conventional meaning of the terms as known in the art. Appellant failed to meet this requirement. There is nothing in GPS as "……. *a range offset in* chips". As further noted, a range is measured using the units of length e.g. meters, inches, yards, etc. The term, chips have no units in regard to measuring a range; chips are just the bit sequence out of the code generator. As such, appellant's claimed, "……. *a range offset in* chips" is superfluous.

The rest of the claims are rejected for depending on a rejected base claim.

Claim Rejections - 35 USC § 102

vi). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

vii). Claims 1-3, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Krasner (5781156)

Regarding claim 1, Krasner discloses a communications system (fig. 1A) for determining the position of an object (20, mobile remote unit), said system comprising:

an interrogator (10, base or reference station) remote from the object (object, col. 4, lines 29-39; pager system, col. 6, lines 16-27), the interrogator including circuits that:

receive GPS signals from GPS satellites (see GPS antenna 12, fig. 1; col. 7, lines 57-60);

for one of the GPS satellites associated with the GPS signals, transmit pre-positioning data (i.e. positioning data e.g. Doppler shifts, pseudorange in col. 6, line 25, etc are pre-established or computed first by the interrogator i.e. base station 10 and sent to the object 20 before an accurate position of the object 20 is computed using the pre-computed sent data. See data link 16, fig. 1A) for the GPS satellite, including:

a pseudorandom noise (PRN) code number (see unique Gold code or C/A code for civilian applications, col. 2, lines 2-14, i.e. each satellite is given a number or unique Gold code for identification of that particular satellite; col. 11, lines 17-21; col. 5, lines 66 to col. 6, lines 1-2),

a Doppler frequency offset (col. 11, lines 60-66),

a code phase offset (col. 11, lines 28-35; col. 5, lines 66 to col. 6, lines 1-2),

a tracking signal (see satellite identity, col. 6, lines 21-26; col. 11, lines 61-66) including reference time (epoch, col. 5, lines 66 to col. 6, lines 1-2),

and frequency information (col. 11, lines 17-20; col. 5, lines 66 to col. 6, lines 1-10);

determine a pseudorange (col. 11, lines 28-35) associated with a received correlation snapshot (a snap shot is the collection of data such as PRN or PN frames in a given period of time; col. 11, lines 28-35; col. 12, lines 10-12), wherein the correlation snap shot comprises correlator sums and a range offset in chips;

a transponder (mobile unit 20 is positioned on or carried by an object since it is mobile) positioned on the object (object, col. 4, lines 29-39; pager system, col. 6, lines 16-27; col.) and including circuits that:

receive (i.e. at 26, 22) the pre-positioning data and the tracking signal (see data link 16, fig. 1A; col. 11, lines 61 thru col. 12);

collect RF samples of the GPS signals (col. 11, lines 61 thru col. 12);

correlate (col. 12, lines 61-67) the RF samples of the GPS signals against replicas of the GPS signals based on the PRN code number, the Doppler frequency offset, the code phase offset in the pre-positioning data, the reference time, and frequency information in the tracking signal to produce the correlation snapshot (col. 1, lines 66 thru col. 2, lines 1+; col. 12, lines 61+); and

transmit (fig. 3, col. 12, lines 49 thru col. 13, lines 1+) the correlation snapshot to the interrogator (10, base or reference station).

Regarding claim 2, Krasner discloses the system of claim 1 wherein the transponder (all the circuit blocks disposed on mobile unit 20) comprises a two-bit (e.g. 1 or 0; col. 10, lines 37-40; fig. 2A) sampler for collecting the RF samples.

Regarding claim 3, Krasner discloses the system of claim 1 wherein the interrogator 10 is further adapted to transmit a wake-up signal (command to initialize, col. 11, lines 61-65;

initialization data, col. 6, lines 16-30) prior to transmitting the pre-positioning data and the tracking signal, and the transponder (i.e. all the circuit blocks disposed on mobile unit 20) comprises:

processing circuitry (fig. 1A); and

a power subsystem adapted to maintain the processing circuitry in a power-off mode prior to receipt of the wake-up signal (col. 5, lines 39-51).

Regarding claim 8, Krasner discloses the system of claim 1 wherein the code replicas (col. 12, lines 7-28; see repetitive signal; col. 1, lines 65 thru col. 2, lines 1-25) are generated by the transponder (i.e. all the circuit blocks disposed on mobile unit 20) at regular offsets (repetition period of 1023 chips, col. 2, lines 6) of some fraction of a C/A code chip.

(10) Response to Argument

i). Applicant's arguments filed 1/15/10 have been fully considered but they are not all persuasive.

The 35 USC 112 FIRST New Matter rejections drawn to the limitations, "correlator sums", and "standby circuit" have been withdrawn.

Applicant's further argument that the limitation "range offset in chips" is abundantly known is not convincing. The examiner respectfully disagrees. Applicant has failed to show how or where the limitation is taught since the first day the rejection "range offset in chips" was introduced on 6/23/2006. Applicant has since then been coming up with different inconsistent explanations. At one time in other remarks responding to the examiner's rejections applicant will refer to "range offset in chips" as a "code phase offset". Applicant fails to disclose what is *offset* from what? In the current brief, applicant refers to "range offset in chips" to mean "clock

offset". However, applicant still fails to disclose what is offset from what. Moreover, a "clock offset" is not "a code phase offset". It is true according to applicant's argument that a range, i.e. distance between a satellite and a receiver, is determined by the time it takes a signal to travel from the satellite to the receiver. However, the time it takes for the signal to travel from a satellite to a receiver is not a "clock offset" or a "range offset" as argued by the applicant. It is respectfully submitted that the phrase, "clock offset" in GPS refers to the time offset of a clock in a fast moving satellite compared to a standard clock on earth. This clock offset between satellite clock and a standard clock on earth is explained by Einstein's theory of Relativity which indicates that clocks in fast moving satellites slow down compared to a standard clock on earth. In GPS such clock offsets are remedied by the use of Atomic clocks in a fast moving satellite. As such it is clearly seen that when there is an offset there is a comparison between one parameter and a standard. If there is a difference between the comparison then there is an offset. It is further respectfully submitted; however, that this is not the case with applicant's invention or claimed "range offset in chips"; here there is no comparison of a range and a standard range to obtain an offset. As such, it is respectfully submitted that applicant's arguments are not convincing.

As further noted it is respectfully submitted that the term, "chips" as known in the art of digital signal communications refers to a pulse of a direct sequence spread spectrum (DSSS) code, such as a pseudo-noise code sequence used in direct-sequence code division multiple access (CDMA) channel access techniques. Each chip is typically a rectangular pulse of +1 or –1 amplitude, which *when multiplied* by a data sequence (similarly +1 or –1 representing the message bits) *and by a* carrier waveform forms a transmitted signal. The chips are therefore just

the bit sequence (such as 0001, 0011, 0111, 111, etc) out of a code generator; the ones and zeros are called chips to avoid confusing them with message bits.

As such appellants disclosure of the meaning of "……. *a range offset in* chips" is out of the ordinary since appellant is not using the conventional meaning of the term chips and further since appellant has failed to provide the proper meaning of , "……. *a range offset in* chips". Applicant can be their own lexicographer; however, applicant must provide a clear and concise meaning of terms they use differently from the known conventional meaning of the terms as known in the art. Appellant failed to meet this requirement. There is nothing in GPS as "……. *a range offset in* chips". As further noted, a range is measured using the units of length e.g. meters, inches, yards, etc. The term, chips have no units in regard to measuring a range; chips are just the bit sequence out of the code generator. Therefore, appellant's claimed, "……. *a range offset in* chips" is superfluous. As such applicant has failed to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Appellant further argues that the prior art, Krasner does not disclose or anticipate the invention. The examiner respectfully disagrees. Applicant further argues that in claim 1, the transponder CANNOT calculate it's position or pseudorange. The argument is not convincing since the argued limitation is out of the scope of the claimed invention. Moreover, the claim is an open-ended claimed marked by the term, "comprising". As such the argument has not nexus.

Applicant further argues that the transponders are relatively close to the interrogator such that the interrogator can predict the *code phase* that the transponder transmits. It is respectfully submitted that applicant does not refer to "*code phase offset*" here, but instead refers to "*code phase*". So is applicant implying that "*code phase offset*" is the same as "*code phase*"?

Applicant further argues that since the Krasner mobile units are 150 KM apart from the base station it implies that the base station cannot transmit a predicted *code phase* to the mobile unit. The examiner does not understand the motive of the argument since the limitation is not in claim 1 which is the only claim argued by applicant. Moreover a separation of 150 KM is not reason for a base station not having the capability to transmit a predicted code phase to the mobile unit. Applicant further argues that the Krasner base station does not know the approximations of the mobile units in any fashion. It is again respectfully submitted that the argument has no nexus to the scope of claim 1, which claim 1 is the only claim that is argued.

Applicant's further argues that the Krasner mobile unit does not receive *a code phase offset* from the base station. The examiner respectfully disagrees and notes that applicant has completely ignored the rejection wherein the examiner took time to cite page and line numbers and explanations in italics showing where the prior anticipate the claim. Applicant has not refuted the cited sections which the examiner cited as anticipating the claims. As such it is respectfully submitted that it is an admission by applicant that Krasner anticipates the invention since applicant is instead arguing limitations which are not in the claims. Krasner anticipates the invention.

That is in claim 1, Krasner discloses a communications system (fig. 1A) for determining the position of an object (20, mobile remote unit), said system comprising:

an interrogator (10, base or reference station) remote from the object (object, col. 4, lines 29-39; pager system, col. 6, lines 16-27), the interrogator including circuits that:

receive GPS signals from GPS satellites (see GPS antenna 12, fig. 1; col. 7, lines 57-60);

for one of the GPS satellites associated with the GPS signals, transmit pre-positioning data (i.e. positioning data e.g. Doppler shifts, pseudorange in col. 6, line 25, etc are pre-established or computed first by the interrogator i.e. base station 10 and sent to the object 20 before an accurate position of the object 20 is computed using the pre-computed sent data. See data link 16, fig. 1A) for the GPS satellite, including:

a pseudorandom noise (PRN) code number (see unique Gold code or C/A code for civilian applications, col. 2, lines 2-14, i.e. each satellite is given a number or unique Gold code for identification of that particular satellite; col. 11, lines 17-21; col. 5, lines 66 to col. 6, lines 1-2),

a Doppler frequency offset (col. 11, lines 60-66),

a code phase offset (col. 11, lines 28-35; col. 5, lines 66 to col. 6, lines 1-2),

a tracking signal (see satellite identity, col. 6, lines 21-26; col. 11, lines 61-66) including reference time (epoch, col. 5, lines 66 to col. 6, lines 1-2),

and frequency information (col. 11, lines 17-20; col. 5, lines 66 to col. 6, lines 1-10);

determine a pseudorange (col. 11, lines 28-35) associated with a received correlation snapshot (a snap shot is the collection of data such as PRN or PN frames in a given period of time; col. 11, lines 28-35; col. 12, lines 10-12), wherein the correlation snap shot comprises correlator sums and a range offset in chips;

a transponder (mobile unit 20 is positioned on or carried by an object since it is mobile) positioned on the object (object, col. 4, lines 29-39; pager system, col. 6, lines 16-27; col.) and including circuits that:

receive (i.e. at 26, 22) the pre-positioning data and the tracking signal (see data link 16, fig. 1A; col. 11, lines 61 thru col. 12);

collect RF samples of the GPS signals (col. 11, lines 61 thru col. 12);

correlate (col. 12, lines 61-67) the RF samples of the GPS signals against replicas of the GPS signals based on the PRN code number, the Doppler frequency offset, the code phase offset in the pre-positioning data, the reference time, and frequency information in the tracking signal to produce the correlation snapshot (col. 1, lines 66 thru col. 2, lines 1+; col. 12, lines 61+); and

transmit (fig. 3, col. 12, lines 49 thru col. 13, lines 1+) the correlation snapshot to the interrogator (10, base or reference station).

It is respectfully submitted that applicant has not refuted any of the cited sections or drawings, applicant further does not even address a single one of the sections. As such it is submitted that it is an admission by applicant that Krasner anticipates the claim.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ronnie Mancho/

Primary Examiner, Art Unit 3664

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